RV Ocean Veritas Data Summary
Cruise 6/15/2010

Review Date 6/16/10

Summary:

This sampling report presents data collected from the RV Ocean Veritas for the period of 6/15/2010. The RV Ocean Veritas will alternate with the Brooks McCall in the collection of subsurface data associated with the Deepwater Horizon oil spill. The sampling strategy for the day was to investigate the presence and location of a deepwater plume west and north of the wellhead. Stations occupied during this reporting period include OV047, OV048, OV049, OV050 and OV051. Sampling began with Station OV047 due to Rototox analytical results collected from Station BM77 during a previous cruise of the RV Brooks McCall.

The CTD array data showed no fluorescence at Stations OV047, OV048, OV049. CTD readings at Station OV050 indicated subsurface oil at 1070 m below surface, while readings indicated subsurface oil at Station OV051 at 350, 800, 820, and at 1070-1100 m below surface. Sampling and monitoring activities at Station OV051 were conducted using respiratory PPE, due to benzene levels measuring at 1.0 ppm.

A total of 11,578 gallons of subsurface dispersant was used on 6/15/2010. The average injection rate was not provided.

No Rototox data for previous operational periods was reported on 6/15/2010.

LISST and CTD Fluorometer:

Water samples were collected at 5 stations. Station OV047 was located 5 km directly west of the wellhead. Station OV048 was located 1 km southwest of the wellhead. Stations OV049 and OV050 were located 5 KM northwest and northeast of the wellhead, respectively. Station OV051 was located approximately 2 km northwest of the wellhead. The *in situ* CTD fluorometer recorded the following data during this operating period: No elevated fluorescence was recorded at stations OV047, OV048 or OV049. Station OV050 produced a weak signal at a depth of 1070 m. Station OV051 produced weak spike in fluorescence at 350m, a moderate spike at 800m, and a weak spike at 820m. Station OV051 also exhibited elevated fluorescence depth range of 1070-1100m.

LISST data was collected at stations OV047, OV048, OV049, OV050 and OV051. For stations and depths where the CTD did not identify submerged oil, the LISST data provided is considered to reflect natural background readings. For station OV050 at 1070m, the LISST data was reported as falling below 2.0 uL/L. LISST

data collected at station OV051 in the range of the subsurface plume (1070-1100m) showed small particle concentrations to range between 1.5 and 2.0 uL/L. A total of seventy-two (72) LISST samples were analyzed, including duplicates.

Dissolved Oxygen:

The CTD instrument includes a dissolved oxygen probe. Dissolved oxygen values recorded by the CTD for station OV050 indicated a slight dip in dissolved oxygen from 910-1120 m below surface. This may indicate an increase in microbial activity within this depth range, which encompasses sub surface oil at 1070 m. At station OV051, The CTD did not record any significant dip in dissolved oxygen at any of the areas where subsurface oil was identified.

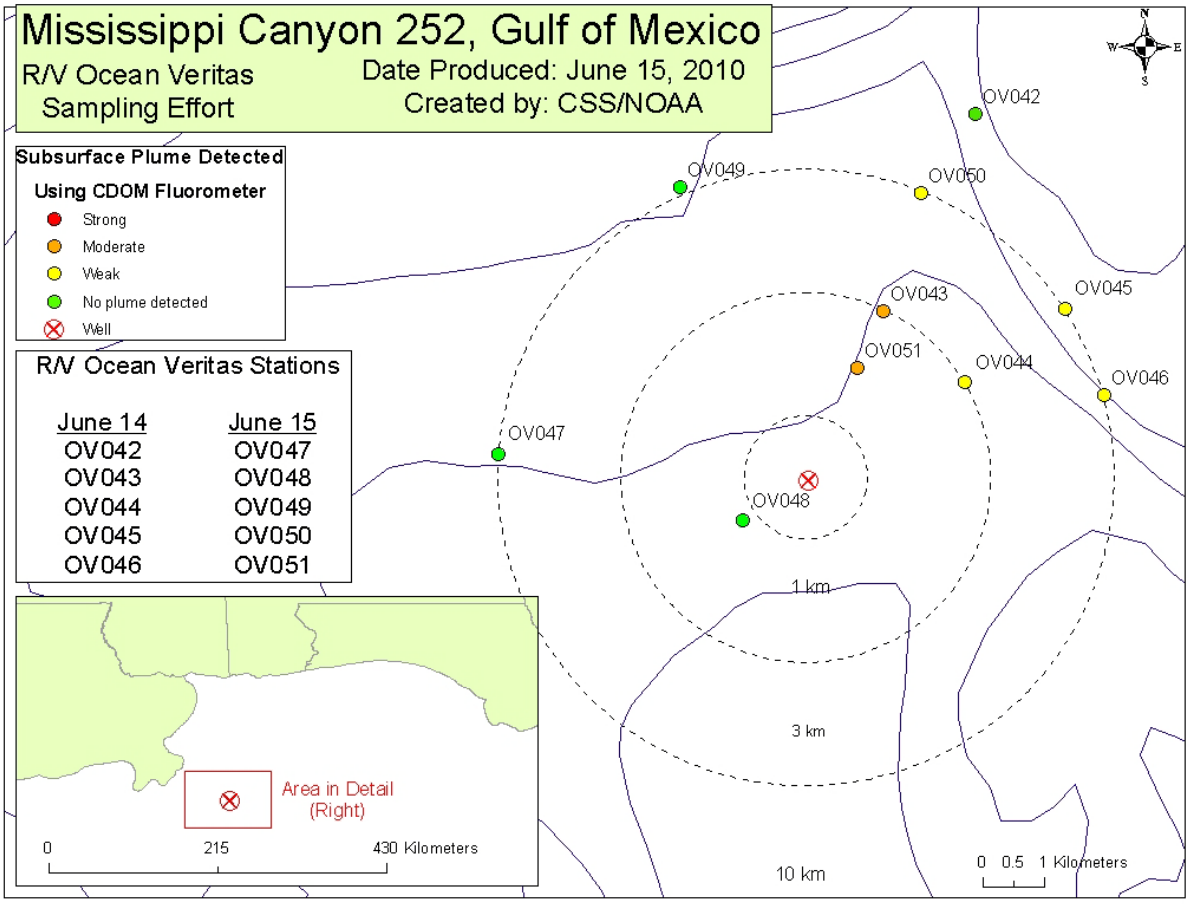
Dissolved oxygen values collected by the use of the Extech probe at station OV050 ranged between 2.57-4.71 ml/l, while Extech readings at station OV051 ranged from 3.56-5.99 ml/l.

Toxicity Testing (Rototox Assay) (data collected from 6/15)

Samples collected from station OV046 on 6/14/2010 were set up today, due to a delay in hatching. Rototox samples were collected at stations OV047, and OV051 . Samples at station OV047 were collected at 146m and 1012m. Samples from station OV047 were selected based on reported data exhibiting toxicity at this location, as previously recorded by the RV Brooks McCall from station BM77. Samples at station OV051 were collected at 3m, 400m, 800m, and 1080m, based on CTD fluorescence readings. Results are estimated to be available in 24 hours.

Chemical Analyses (TPH and VOCs) (data collected from 6/14)

Sixty-three (63) samples were collected for TPH analysis and sixty-three (63) samples were collected for VOC analysis. No data were provided for review at this time due to laboratory lag time.


Mississippi Canyon 252, Gulf of Mexico
R/V Ocean Veritas
Sampling Effort
Date Produced: June 15, 2010
Created by: CSS/NOAA
Subsurface Plume Detected
Using CDOM Fluorometer
Strong
Moderate
Weak
No plume detected
Well
R/V Ocean Veritas Stations
June 14
OV042
OV043
OV044
OV045
OV046
June 15
OV047
OV048
OV049
OV050
OV051
Area in Detail
(Right)
0
215
430 Kilometers
OV042
OV049
OV050
OV043
OV045
OV051
OV044
OV046
OV047
OV048
1 km
3 km
10 km
0 0.5 1 Kilometers
N
W
E
S